

THE CLAIMS OF THE INVENTION ARE AS FOLLOWS:

1. A cleaning device for cleaning a medical instrument including: a fabric, wipe, or sponge impregnated with a composition comprising at least one enzyme, a surfactant and
5 a humectant.
2. A cleaning device according to claim 1 further including a disinfectant compatible with said at least one enzyme.
3. A cleaning device according to claim 1 or 2 wherein the at least one enzyme is selected from protease, alcalase, cellulase, lipolase, and combinations thereof.
- 10 4. A cleaning device according to claim 3 wherein the enzyme is present as a solution or a suspension in an amount of 5 to 25 %w/w of the composition.
5. A cleaning device according to claim 4 wherein the enzyme is present as a solution or a suspension in an amount of 10 to 20 %w/w of the composition.
6. A cleaning device according to any one of the preceding claims wherein the
15 humectant is selected from calcium chloride, sodium chloride, glycerine, borax, ethylene glycol, propylene glycol and combinations thereof.
7. A cleaning device according to any one of the preceding claims comprising glycerine as a humectant.
8. A cleaning device according to any one of the preceding claims wherein the
20 humectant is present in an amount to ensure that sufficient water is absorbed to reduce any hazard which would arise from use of the enzyme in dry form.
9. A cleaning device according to any one of the preceding claims wherein the humectant is present in an amount to maintain activity of the enzyme during storage.

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10. A cleaning device according to claim 8 wherein the humectant is present in the composition in an amount of 1 to 10 %w/w of the composition.
11. A cleaning device according to claim 9 wherein the humectant is present in the composition in an amount of 4 to 7 %w/w of the composition.
- 5 12. A cleaning device according to any one of the preceding claims wherein the surfactant includes at least one non-ionic surfactant.
13. A cleaning device according to claim 12 wherein the non-ionic surfactant is present in the composition in an amount of 5 to 45 %w/w.
14. A cleaning device according any to one of the preceding claims wherein the
10 surfactant is a synthetic or natural alcohol ethoxylate.
15. A cleaning device according to any one of the preceding claims wherein the surfactant includes at least one anionic surfactant.
16. A cleaning device according to claim 15 wherein the anionic surfactant is present in the composition in an amount of 5 to 15 %w/w.
- 15 17. A cleaning device according to claim 15 or 16 wherein the anionic surfactant is a hydrocarbon sulphonate or sulphate.
18. A cleaning device according to any one of claims 12 to 17 wherein the total surfactant in the composition is in an amount of 15 to 45% w/w.
19. A cleaning device according to any one of the preceding claims further including a
20 preservative.
20. A cleaning device according to any one of the preceding claims adapted to
i) remove at least a portion of externally adherent soiling on a surgical instrument by mechanical wiping; and

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ii) to redistribute any remaining external soiling such that it is distributed as a film of thinner and more uniform thickness than on the unwiped instrument.

21. A cleaning device according to any one of the preceding claims adapted for use in cleaning an exterior tubular surface of a surgical instrument.

5 22. A cleaning device according to any one of the preceding claims adapted for use in cleaning an exterior tubular surface of an endoscope.

23. A cleaning device according to any one of the preceding claims adapted to contact a substantial arc of an external circumference of a tubular portion of the instrument.

24. A cleaning device according to claim 16 adapted to engage an arc of about 360
10 degrees of an external circumference of a tubular portion of the instrument and which is resiliently deformable in a radial direction.

25. A cleaning device according to any one of the preceding claims adapted to slide axially along the length of a tubular portion of the instrument so as to wipe the surface thereof.

15 26. A cleaning device according to any one of the preceding claims fabricated from hydrophilic fibres.

27. A cleaning device according to any one of the preceding claims fabricated from polymeric material.

28. A cleaning device according to any one of the preceding claims composed of
20 viscose fibres and polypropylene fibres.

29. A cleaning device according to claim 28 wherein the viscose fibres and polypropylene fibres form a homogeneous mixture tangled by a needling technique to form a low density web with substantially no free fly away fibres.

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30 A cleaning device according to any one of the preceding claims in the form of a wipe, or roll of wipes, fabricated from a polymeric foam, textile, paper or hybrid material.

31. A cleaning device consisting in a fabric, wipe or sponge impregnated with a
5 hygroscopic enzyme cleaning formulation containing one or more enzymes, one or more surfactants and an enzyme stabilising system.

32. A cleaning device according to any one of the preceding claims for use in cleaning
an exterior surface of a tubular portion of an endoscope in need of said cleaning, said
device including a pad having a groove extending from one end of the pad to an opposite
10 end and adapted resiliently to engage the exterior surface of the tubular portion of the endoscope exterior surface, the pad being adapted alone or with a complementary pad to substantially encircle the exterior surface of the tubular portion and being resiliently deformable so as to engage the exterior surface of the encircled portion, whereby to uniformly wipe said exterior surface as the device is slid longitudinally along the
15 endoscope tube.

33. A cleaning device according to claim 32 wherein the pad is formed of a needle felt
and has two spaced apart parallel grooves each of arcuate cross-section which may be
folded into alignment on opposite sides of a tubular axis to form a tubular tunnel
resiliently engaging the exterior surface of a tubular portion of an endoscope about its
20 circumference.

34 A cleaning device according to claim 33 which may be folded about a longitudinal fold seam.

35. A cleaning device according to any one of claims 1 to 27 fabricated from a non-woven fabric and impregnated with one or more enzymes, one or more surfactants and at least one humectant.

36. A cleaning device according to claim 35 fabricated from a non-woven fabric
5 and impregnated with a plurality of enzymes, a plurality of surfactants and at least one humectant.

37. A package containing a cleaning device for cleaning a surgical instrument, said cleaning device including at least one single use fabric, wipe or sponge impregnated with an enzyme, a surfactant, and a humectant.

10 38. A package according to claim 37 wherein the package is moisture permeable.

39. A method of cleaning the exterior surface of a surgical instrument in need thereof, with a cleaning device of any one or claims 1 to 36 said method including the steps of:

(i) wiping the exterior surface, wherein a resilient pad or a wipe is pressed against an exterior surface of the surgical instrument and slid longitudinally to mechanically
15 remove gross soiling and at the same time redistribute any residue remaining to a substantially uniform thickness, while at the same time

(ii) subjecting the surface to treatment with an enzyme and a surfactant.

40. A method according to claim 39 wherein a resilient pad or wipe is held around a tubular portion of the surgical instrument in a manner which exerts a force acting
20 radially towards an axis of the tubular portion of the surgical instrument.

41. A method according to claim 40 wherein the residue is redistributed to a more uniform thickness about a circumference and a length of the tubular portion of the surgical instrument.

42. A method according to any one of claims 39 to 41, wherein the treatment of
25 step (ii) includes a humectant.

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43. A cleaning device substantially as herein described with reference to any one of the drawings

44. A cleaning device substantially as herein described with reference to any one of the examples